SOUTH DELTA WATER AGENCY

4255 PACIFIC AVENUE, SUITE 2
STOCKTON, CALIFORNIA 95207
TELEPHONE (209) 956-0150
FAX (209) 956-0154
E-MAIL Jherrlaw@aol.com

Directors:
Jerry Robinson, Chairman
Robert K. Ferguson, Vice-Chairman
Natalino Bacchetti
Jack Alvarez
Mary Hildebrand

Counsel & Manager:
John Herrick

April 5, 2011

Via E-Mail westcot-sjrga@sbcglobal.net

Mr. Dennis W. Westcot
Project Administrator
San Joaquin River Group Authority
716 Valencia Avenue
Davis, CA 95616-0153

Re: Lower San Joaquin River Committee Water Quality Questions

Dear Dennis:

This is in response to your request for LSJR Committee members to pose questions regarding the type and quality of data which is available or will be needed. I am also taking this opportunity to highlight some other relevant issues and questions. Some of my comments address things which probably cannot be changed, but I believe they need to be reflected on as we and the broader CV SALTS' process continue.

First of all is the political issue. It is difficult if not impossible to separate ongoing efforts in other fora from the efforts to address San Joaquin River quality issues. First and foremost is the Peripheral Canal (or tunnel) effort within the BDCP process. This affects our efforts in that PC advocates intend to limit their involvement in the southern Delta and therefor argue that they should have less responsibility for addressing water quality concerns in that area. Although PC operations are far from being determined, a few hard facts cannot be modeled away. Under current operations, hundreds of thousands of tons of salt come down the River into the southern Delta. This salt, for all intents and purposes *never exits the system* as the San Joaquin's flow is insufficient to overcome local diversions, especially export pumping. Whether exports are high or low, the salt stays in the area except to the extent to which export pumps remove it (and recycle it back down to the valley), or very high wet year flows push some of it out. Hence, any decrease in exports will necessarily result in more of the salts remaining in the southern Delta in most every year. Given this unavoidable result, PC advocates must seek a way to either mitigate the effects or avoid responsibility for them.

Since there is (generally) no mitigation that does not require additional Delta outflow from the San Joaquin, export interests seek: to relax in-Delta water quality standards protecting agricultural beneficial uses; allege in-Delta activities are a source of salts; and decrease the number of in-Delta diverters to later argue the economic burden of meeting standards is unreasonable.

In addition to this, upstream, or tributary interests seek to avoid any responsibilities on the main stem, either for fishery needs or for other downstream users such as riparians or pre-1914 right holders. It is not commonly known that the Stanislaus, the Tuolumne, the Merced, and the upper San Joaquin rivers make no regulatory releases for fisheries or for riparian users on the main stem or in the Delta. Although the SJRGA does make releases to meet USBR obligations on the main stem, those releases are being done in exchange for money payments from the State and Federal governments. Because of this situation, the upstream interests also seek to lessen water quality standards, shift the salt "responsibility" to in-Delta users, and decrease the number of "legal" users in the Delta.

The combination of these two interests has resulted in new (2009) State legislation aimed at investigating in-Delta (and no other) users to identify "illegal" users, SWRCB efforts to investigate only in-Delta water rights, and SWRCB efforts to "review" (read relax) southern Delta salinity standards. The net effect of these efforts are legal attacks on the water rights of in-Delta diverters of all sizes, from owners of 40 acre parcels to 112 year old irrigation companies. I do not expect those who read this to suddenly see the light and abandon their efforts. However, as we move forward in this process, it must be noted that it is unlikely that there can be any sort of a "fair and unbiased" effort given the ongoing efforts by export and upstream parties to adversely affect the parties who would benefit from new standards on the San Joaquin River. It is unrealistic to think that those who are funding the attacks on Delta water rights and water quality objectives would at the same time seek adequate protection of those they are attacking.

In addition to this, we are facing the all-too common problem of the current regulatory structure. Addressing San Joaquin River salinity problems under a TMDL which applies to loads is the classic "square peg in the round hole" fiasco. Although loads may be an appropriate approach for some contaminants, it is totally inappropriate for salt. The system can handle virtually any salt load if it is moving through the system at an acceptable concentration. It is not a question of how much salt comes from the CVP service area, it is a question of the concentration of any surface or subsurface discharge from or due to that area's use of water. There are no magical approaches, there are no BMP's as yet undiscovered, there are no alternate approaches which will solve the problem. There are only a few ways to address the problem: dilute salty discharges, remove salt from discharges, or decrease the salt coming into the CVP service area in a manner which accomplishes one of the other two options. There are no other choices.

It must again be stressed that having tributary interests under a TMDL for salt is illogical if not just plain wrong. Although the large volume of tributary water entering the San Joaquin results in a substantial load of salt, the concentration is always so low that their water improves the system; always. Giving them a load limit can accomplish nothing, and if it results in them decreasing their discharges, it will make the system worse. This leads to another associated problem which apparently no one wants to acknowledge. Conservation makes things worse. When CVP users recycle their water they concentrate the constituents in the water and decrease the flow in the River. To have more concentration and less flow in order to meet discharge requirements is a Pyrrhic victory at best.

A second problem with the current regulatory approach is its separation of the upper San Joaquin River from the southern Delta. The current southern Delta standards were first adopted in the 1995 WQCP for the Bay-Delta. That Plan recognized that meeting Vernalis and Brandt Bridge were dependent on River flow, but that Old River at Middle River and Old River at Tracy Blvd bridge required other actions. What is generally ignored is that any solution requires net flow in a channel. A combination of flows, exports, local diversions and (yearly installed) tidal barriers creates null zones where River salts accumulate and concentrate. Discussions about whether parties upstream of Vernalis are protected by 0.7 EC or 1.5 EC are meaningless in relation to how southern Delta interests might be protected from the accumulation and concentration of CVP salts. For example, if the upstream diverters can live with 1.2 EC, and that becomes the goal of this process, and if the SWRCB indeed relaxes the interior southern Delta standards to that same 1.2 EC, the problem remains. Whatever the standard, water of a quality equal to the standard will deteriorate as it moves downstream and further degrade when it reaches the null zones. With Vernalis at 0.7 EC, the null zone may have 1.5 EC or above. With a new standard of 1.2 EC, the null zone will have a water quality of something like 2.0 EC. Hence the issue is not so much one of what should the standard be (or be changed to) but how to make sure the salts do not accumulate and concentrate.

When the Regional Board process separates out the water quality upstream of Vernalis form that of downstream of Vernalis, it sets up a no-win situation. Finding out that someone near Crows Landing can live with 1.2 or 1.5 EC does nothing to address the salt problem of the San Joaquin because the problem is the accumulation of salts in southern Delta channels.

It is also important to understand what "meeting a standard" actually means. Let's say the standard at one location is 0.7 EC. An ag diverter of that quality water will consume water, and in most instances, discharge back into the river the excess water with nearly all of the salt which was in the water when it was diverted. This means that any users of river water will automatically discharge a quality which exceeds the standard. This has two effects; it makes the discharger a violator of the standard, and it prevents anyone downstream of him from receiving water which meets the standard. If such diverters are within the group to be protected by the

standard, we have obviously failed. First, meeting quality requirements at one location does not constitute protection. That is why the 2006 WQCP clarified that the standard is to be met throughout the channels, not at just compliance locations. Second, we should not punish a user of river water because he concentrates constituents already in the water. He should only be regulated to the extent he adds constituents of concern. Otherwise, the standards in the southern Delta become a barrier to diverting water and the group being protected is precluded from diverting the water keep cleaner for him.

From this I conclude that any new standard we develop upstream of Vernalis must contain a strong caveat, if not a disclaimer. Protection of agricultural beneficial uses upstream of Vernalis is not a meaningful regulatory action unless it is combined or coordinated with a method to insure that CVP salts are transported through and exit from the southern Delta at concentrations which protect in-Delta users.

It is also important to be aware of HR 2828 which became PL 108-461. That law sets forth numerous conditions to the USBR using the DMC-California Aqueduct Intertie to increase exports. [The upper DMC is not sloped evenly and thus cannot handle the full amount of water that can be pump at the federal pumps. An interie allows State pumps to full fill the DMC down canal from this problem.] Those conditions include the Bureau developing and implementing a Plan to Meet Standards, recirculation, purchases of water, and decreased use of New Melones for meeting River obligations. To my knowledge, the Bureau's only attempt at meeting these conditions was its recently released recirculation study which was not well received by the SWRCB. Rather than delay, the Bureau must decide what lower amount of New Melones water it will budget, what and where it will buy water for dilution and river flows, and what and when recirculation will contribute to river flows. All of these should have already been determined (HR 2828 passed in 2004) and are in fact the basis upon which our efforts must proceed. For example, USBR should have already determined that during certain years, it will purchase a specified amount of tributary water for release during the times when the wetlands make their Jan-Feb releases which would decrease New Melones obligations to release water to meet the 1.0 EC standard at Vernalis.

CVPIA and subsequent actions have increased deliveries of CVP water to valley wetlands. This has not resulted in any increase in the importation of salt into the valley, but has resulted in a net increase in the consumption of water in the valley. The extent to which this increases the concentration of salts in the CVP service area is not clear, as other factors affecting exports have forced valley agricultural interests to maximize the use of their limited supply. Previously, many CVP users allowed significantly higher (than now) flows to return to the River. This water provides dilution and flow which benefitted numerous uses. Those "excess return flows" are now greatly diminished and the "open water" of the wetlands consumes more water than does irrigated agriculture.

With that said, here are my questions/comments regarding the data needed.

1. **History of Violations** We only need a brief history of violations at Vernalis. Prior to 1995, and especially prior to the operation of New Melones, salinity at Vernalis was significantly high to result in regular and extensive crop damage in the southern Delta. That data supporting that is extensive. However, since 1995, I am aware of few or no exceedances of the 0.7/1.0 EC standard. [Both the 0.7 and 1.0 standards have been exceeded, but small exceedances or ones of short duration do not constitute violations.] It should be simple and quick for the Bureau or DWR to provide the monitoring data since 1995 and we can describe the actual situation. However, there have been numerous violations of the Brandt Bridge standard (since that is a distinct compliance location, the extent of the area out of compliance is not known). The 1995 WQCP anticipates meeting Brandt Bridge with increased River flows. Thus a necessary question is how USBR and DWR plan to meet Brandt Bridge; whether they need additional river flow, or whether they intend on creating reverse flows up from the Deep Water Ship Channel to provide the necessary dilution. Their answer will determine what is needed at Vernalis under different conditions.

2. **Salt Loading** We do need to gather the existing info regarding this, and again post 1995 makes the most sense. I believe Dan Steiner has most of the necessary information due to his updating of the model a few years back. We need to check with the SJRGA to see if they will assert any proprietary claims preventing disclosure, but I think there should be no problem. His data came from various entities which should allow a brief update and identification of unknowns. Additional questions should address how we determine where subsurface flows are and what their salt contribution is. It is just as important to determine if subsurface flows are caused by or degraded by surface applied water. If an area decreases its surface contributions but much of the salt simply enters the ground water for eventually accretion into the river, that area must be assigned the responsibility for that same salt.

Although we may need to divide the data into year types, I do not think that is as helpful as simply comparing everything in terms of concentrations. Regardless of the year type, a discharge of highly concentrated salt needs to be compared to what is in the river (volume and concentration) and what other discharges (dilution) are possible. Hence, the area-wide real time plan can try to coordinate dilution flows with concentrated salts notwithstanding any loads involved. Again, it is key to first know what the USBR and DWR plan to do to address downstream issues so that upstream actions result in overall benefit, not just localized benefits.

3. **Importation of Salts** It is key in my view to make the distinction between imported and "natural" salts. As reviewed above, water users should not be punished or limited because of the salts which are already in the water they seek to use. Those who important salts into the basin, which salts are "un-natural" to the area are what need to be regulated, and either

diminished or diluted. Until/unless the TMDL is changed, the Regional Board has already drawn the line regarding responsibility by giving CVP users a credit for the USBR's imported salts. The task now is to find a way to dilute salts which reach the river. Virtually all the water which needs diluting comes from the CVP service area.

We should identify the salt coming from both wetlands and agricultural served by CVP water. However, there is no reason to treat the two differently. They both use imported water that has "un-natural" salt, consume water and concentrate salt which eventually reaches the river.

4. **Quality Conditions in River** I believe most of the monitoring stations have daily data. It becomes increasingly difficult to try to operate from monthly, to weekly to daily. However, there is a point where too long an average is not protective. A monthly average can be well above a standard, but if the irrigation needs occur during the two weeks that have levels above the average, the plants see no benefit when the fresher water arrives. I suggest we try to have 14 day averages with a goal of 7 day averages. It all depends on the available tools. USBR operates New Melones sometimes to meet the Vernalis standard on a daily basis.

5. **Dilution** The USBR has all the accounting for New Melones releases, and for what purpose. This data should be reviewed and interpreted as the priority of releases affects the accounting. That is to say, releases for DO and fish provide the necessary dilution to meet salinity standards, yet those releases do not appear in any accounting of what is needed for meeting salinity. A precondition to deciding what New Melones water was and will be used for salinity control is the Bureau's Plan to Meet Standards. Since the Bureau is obligated under federal law to decrease the use of New Melones for its water quality obligations on the San Joaquin River, we must know the amount of reduction planned before we can develop our upstream standards. As stated above, we also need to know the USBR and DWR plans for meeting the interior Delta standards as that too will determine how and what we do upstream.

I apologize for the length of this letter, but hope it will help focus our efforts in a manner which will lead to beneficial results, not just compliance with a task.

Very truly yours,

JOHN HERRICK

cc (via e-mail):
Committee Members